

HHE UNIVERD STRAYES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Seminis Hegetable Seeds, Inc.

DICTORS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE REGORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE GHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PURIOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'Conquistador'

In Testimony Thereof, I have hereunto set my hand and caused the seal of the Plant Hariety Trotection Office to be affixed at the City of Washington, D.C. this nineteenth day of April, in the year two thousand and five.

Attest.

Oce mile

Commissioner Plant Variety Protection Office Agricultural Marketing Service Secretary of Sariculture

Exhibit 16A. Origin and Breeding History of Lettuce cv. Conquistador (PSR 0136)

Pedigree of cv. Conquistador

Female	• .	Male	
cv. Darkland (Cos c\	/. Bautista	1992
		1992	
	F ₂	1993 13 sir	ngle plant selections
	F ₃ ↓	1994 19 sir	ngle plant selections
	F4 ↓	1995 21 sir	ngle plant selections
	F ₅ ↓	1996 23 sir	ngle plant selections
	PSR 0136 F ₆ ↓	1997 trials	and seed increase
	F ₇ ↓	1998 comm and see	nercial trials d increase
	F ₈	1999 comn and see	nercial trials d increase

Cv. Conquistador (PSR 0136) originated in 1992 with the cross cv. Darkland Cos by cv. Bautista. Single plant selections were made in subsequent years in the area of intended commercialization. By F_6 a group of 17 families was judged uniform and bulked for trialing and seed increase. An F_7 mass was trialed extensively during 1998 and an increase of F_8 seed was produced in the San Joaquin Valley of California this year.

The breeding work was carried out by Dr. William Waycott at the Petoseed Company's Research Station at Arroyo Grande, California. Petoseed Company was purchased by Seminis Vegetables Seeds, Inc. in 1995, and the work continued by the same staff at the Arroyo Grande location until the present. Replicated field trials were conducted in production areas throughout California and Arizona during 1998 and 1999.

The breeding method employed was pedigree selection, using both single plant selection and mass selection practices. The selection criteria for cv. Conquistador were:

- 1. a cultivar with increased uniformity, and improved heading ability adapted to growing conditions in the Desert Southwest of North America, when compared to the most similar varieties, along with:
- 2. darker color, and
- 3. resistance to corky root rot.

In trials of cv. Conquistador during the last seven years covering generations F₆ to F₁₃, we have seen neither genetic variants nor off-types in more than 10,000 plants, indicating that this variety is genetically uniform and stable.

Exhibit 16B. Novelty Statement of Lettuce cv. Conquistador (PSR 0136)

Cv. Conquistador is described as a vigorous romaine lettuce cultivar adapted to the California and Arizona lettuce growing areas. Cv. Conquistador is sown from October through December in Southern California and western Arizona, in December and January in the San Joaquin Valley of California, and January through May in the production areas of Coastal California. Cv. Conquistador is susceptible to all California pathotypes of downy mildew, however, it contains the mo gene conferring resistance to lettuce mosaic virus, and the cor gene conferring resistance to corky root rot, strain CA1. Cv. Conquistador was selected for improved uniformity and performance compared to the currently commercial cultivars grown during the same production periods as well as for the disease resistances listed above.

Phenotypically, cv. Conquistador is distinct from its most similar commercial cultivars, cv. Clemente (Table 1). Cv. Conquistador is larger (25cm vs. 23.1cm), not as heavy (768.5g vs. 820g), and more uniform in head formation and appearance than Clemente. In replicated field trials, cv. Conquistador exhibited more plants with uniformly tall heads, while cv. Clemente exhibited less uniformity of heading, with several plants having mis-shapened heads. The leaf color of cv. Conquistador was consistently darker (RHC color chart 146A), while the color value of cv. Clemente was 146B.

The data presented here are statistically different at the 95% confidence level, exhibiting a range of means for plant height from 28.92 to 29.43 for cv. Conquistador and from 25.55 to 26.30 for cv. Clemente, of means for head diameter from 24.67 to 25.33 for cv. Conquistador and from 22.60 to 23.50 for cv. Clemente, and of means for head weight from 766.57 to 770.43 for cv. Conquistador and from 817.82 to 822.18 for cv. Clemente, using the 0.95 probability of generating confidence intervals (CI) that contains the means.

Table 1. Evaluation of Conquistador (PSR 0136) and the most similar cultivar, Clemente, for several important characters.

			Downy	Corky	1 046100				
Trial No	Cultivar	Mildew Rep No. Color ^a Resist. ^b		ميت	Mosaic Resist. ^d	Plant Height ^e	Head Diam. ^f	Head Weight ^g	No. of Days to 15 cm ^h
Trial 1: Evaluated: 5 Jan 99	Conquistador:	Rep. 1 146A Rep. 2 146A	Suscept. Suscept.		Resist. Resist.	28.7±1.1 29.5±1.3	25.1±1.2 25.7±1.7	768±8.1 770±8.9	65 64
Yuma, AZ		Average: 146A	Suscept. Resist.		Resist.	29.1±1.2	25.4±1.5	769±8.5	64
	Clemente:	Rep. 1 146B Rep. 2 146B	Suscept. Suscept.	Resist. Resist.	Resist. Resist.	26.1±1.5 26.1±1.6	22.9±2.1 22.7±1.8	820±9.6 826±9.5	69 89
		Average: 146B	Suscept. Resist.		Resist	26.3±1.6	22.8±2.0	823±9.6	69
Trial 2: Evaluated: 3 Jan 99	Conquistador:	Rep. 1 146A Rep. 2 146A	Suscept. Resist. Suscept. Resist.		Resist. Resist.	28.9±1.2 29.6±1.0	24.3±1.3 24.9±1.7	772±8.3 764±9.2	64 64
Yuma, AZ		Average: 146A	Suscept.	Resist.	Resist.	29.3±1.1	24.6±1.5	768±8.8	64
	Clemente:	Rep. 1 146B Rep. 2 146B	Suscept. F Suscept. F	Resist. Resist.	Resist. Resist.	25.4±1.5 26.1±2.0	22.8±1.9 23.8±2.2	815±10.2 819±9.7	70 68
		Average: 146B	Suscept. Resist.		Resist.	25.8±1.8	23.3±2.1	817±10.0	69

Range of variation among means of statistically significant differences at the 95% level using the confidence interval [CI = mean ± (SDXSE)]:

24.67 to 25.33	22.60 to 23.50
28.92 to 29.43	25.55 to 26.30
dor (PSR 0136)	
cv. Conquista	cv. Clemente

766.57 to 770.43 817.82 to 822.18

^a Color evaluation was done using the Royal Horticultural Society color chart, U.K.

^b Downy mildew survey reported as resistance to California Pathotypes I through V, using two replications each having 15 seedlings,

grown in laboratory screens. ^c Corky root rot survey of using five replications, each having 25 roots from plants grown in field trials in Monterey and Santa Maria ^d Lettuce mosaic virus survey using two replications each having 40 seedlings, grown in laboratory screens. Counties, CA, evaluated between June and August, 1997 and 1998.

 $^{^{}m e}$ Mean plant height using two sowing dates of 20 plants per replication in cm \pm standard deviation

Mean head diameter using two sowing dates of 20 plants per replication in cm \pm standard deviation

 $^{^9}$ Mean head weight using two sowing dates of 20 plants per replication in grams \pm standard deviation. Mean number of days until stem reaches 15 cm using two replications of 20 plants each.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE DIVISION

OBJECTIVE DESCRIPTION OF VARIETY LETTUCE Lactuca sativa

NAME OF APPLICANT (S)

Agrada Arramagab yaa sahe

Seminis VEgetable Seeds, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

37437 State Hwy 16 Woodland CA 95695

FOR OFFICIAL USE ONLY

CONQUISIAGOR

Place numbers in the boxes for the characters which best describe this variety. Measured data should be the mean of an appropriate number (at least 10) of we spaced plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors. The location of the test area is: Color System Used: 1. PLANT TYPE: (See list of suggested check varieties page 4.) 01=Cutting/Leaf 05-Great Lakes Group 09=Stem 02=Butterhead 06=Vanguard Group 10-Latin 03=Bibb 07=Imperial Group 11-OTHER 04=Cos or Romaine 08=Eastern (Ithaca) Group COLOR 2. SEED: LIGHT DORMANCY HEAT DORMANCY 1=White (Silver Gray) 1=Light Required 2#Black (Gray Brown) 1=Susceptible 3=Brown (Amber) 2= Light Not Required 2=Not Susceptible 3. COTYLEDON TO FOURTH LEAF STAGE: Provide a color photograph or photocopy of the fourth teaf from 20 day old seedling grown under optimal conditions; SHAPE OF COTYLEDONS: 1~Broad 2=Intermediate 3=Spatulate SHAPE OF FOURTH LEAF: 2 5 6 LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10 APICAL MARGIN: 1=Entire 4=Moderately Dentate 7=Lobed 2=Creanate/Gnawed 5=Coarsely Dentate 8=OTHER (specify) BASAL MARGIN: 3=Finely Dentate 6=Incised UNDULATION: 1=Flat 2=Slight 3=Medium 4=Marked GREEN COLOR: 1=Yellow Green 3=Medium Green 5=Blue Green 7=Gray Green 2=Light Green 4=Dark Green 6=Silver Green ANTHOCYANIN: 5-OTHER (specify) 1=Absent DISTRIBUTION: 3-Spotted 2=Margin Only 4-Throughout CONCENTRATION: 1=Light 3≈Intense 2-Moderate ROLLING: 1=Absent 2-Present CUPPING: 1=Uncupped 2-Slight 3=Markedly

2=Apical Margin

3-Lateral Margins

1-None

REFLEXING:

		LEAVES (observe harvest-maturovide color photo of harvest-maturovide Color photo of harvest-maturovide Color photo of harvest-maturovide Color photos of har	re outenleaves);	and margin characteristics.	
		INCISION DEPTH: Ideepest penetration of ti	1=Absent/Shallow (Dark Green Boston) he margin)	2=Moderate (Vanguard)	3=Deep (Great Lakes 6§৪)
	4	INDENTATION: (finest divisions of the margin	1=Entire (Dark Green Boston) 2=Shallowly Dentate (Great Lakes 65)	3-Dedply Dentate (Great Lakes 659 4-Crenate (Vanguard)	5-OTHER (specify)
		UNDULATION OF THE APICAL MARGIN:	1=Absent/Slight (Dark Green Boston)	2-Moderate (Vanguard)	3-Strong (Great Lakes 659
	4	GREEN COLOR:	1=Very Light Green (Bibb) 2=Light Green (Minetto)	3=Medium Green (Great Lakes) 4=Dark Green (Vanguard)	5=Very Dark Green 6=OTHER
		ANTHOCYANIN (grown at o	r below 10 C):		
		DISTRIBUTION:	1=Absent 2=Margin Only (Big Boston)	3=Spotted (Calif. Cream Butter) 4=Throughout (Prize Head)	5-OTHER (specify)
		CONCENTRATION:	1=Light (Iceberg)	2=Moderate (Prize Head)	3=Intense (Ruby)
	3	SIZE:	1=Small · · ·	2~Medium	3×Large
	3	GLOSSINESS:	1=Oull (Vanguard)	2~Moderate (Salinas)	3=Glossy (Great Lakes)
	2	8LISTERING:	1=Absent/Slight (Salinas)	2=Moderate (Vanguard)	3=Strong (Prize Head)
	2	LEAF THICKNESS:	1=Thin	2-Intermediate	3=Thick
		TRICHOMES:	1=Absent (smooth)	2=Present (spiny)	
5. PLAN	IT (at	market stage. Choose a compari	son variety appropriate for this type.):		,
[2]	al ^s	SPREAD OF FRAME LEAVES:	DIG CLEME	NITE	
		cm This Variety HEAD DIAMETER (market tri		(specify comparison variety	Y) .
12	5	cm This Variety	DEME	ENTE (specify comparison variet	w)
	4	HEAD SHAPE.	1=Flattened	3*Spherical 4=Elongate	5=Non-Heading 6=OTHER
[3	HEAD SIZE CLASS:	1=Small	2×Medium	3=Large
2	4	HEAD COUNT PER CARTON		· · ·	
76	9	HEAD WEIGHT: g This Variety	18120, CLEMENT	[
[2	MEAN SIDIANCES.		3=Firm 4=Very Firm	
6. BUTT	(botto	m of market-trimmed head);			,
	3]_	SHAPE: 1	=Slightly Concave	2=Flat	3=Rounded
	3	MIDRIB: 1	=Flattened (Salinas)	2-Moderately Raised	3=Prominently Raised (Great Lakes 659)
7. CORE	stem o	of market-trimmed head):			
4	ַ ט	nm Diameter at base of head			
6	<u> </u>	Ratio of head diameter/core diam		and the second s	
1	<u> </u>	Core height from base of head to nm. This Variety	[68] WW CLEWEN.	TE (specify comparison vanety	
B. BOLTII	VG (C	ive First Water Date 19 MA	1981: NOTE: First Water Date is the to germinate. This can and oft	e date seed first receives adequate mois en does equal the planting date,	iture .
6	1	lumber of days from First Water his Variety	Date to seed stalk emergence (aummer co	_	,
	3 8		C1		5-Very Rapid
85	ጎ ነ	leight of mature seed stalk: m. This Variety	1815 cm CLEMEN	(specify comparison variety)	

۳	Spread of Bolter Plant (at wil	dest point):	Augustinus i Contra topico SAC	* The control of the first of the control of the co
	42 cm This Variety	48	CLEMENTE (specify)	comparison variety)
Ť	1 BOLTER LEAVES:	1=Straight	2=Curved	nember di di 1
	MARGIN:	1=Entire	2=Dentate	Control of the Contro
	3 color:	≻Light Green	2-Medium Green	3*Oark Green
	BOLTER HABIT:			- 2
	TERMINAL INFLORESCENCE:	1-Absent	2=Present	**************************************
.t	LATERAL SHOOTS:	1=Absent	2=Present	
	BASAL SIDE SHOOTS:	1=Absent	2=Present	
9. MA	TURITY fearliness of harvest-mature he	od formation):		
,	NOTE: Complete this section for at lees	t one season,		
·	SEASON Applic. 1 #of days	Check 1/ #of days	CHECK	VARIETY 4
	Spring 98	101	CLEMENTE	AA e
	Summer		- 18 m	
	Fall 81	83	CLEMENTE	
. [Winter 9	94	CLEMENTE	
Give	planting date(s), and location(s):			
	Spring SOUTHEDAY CALIF	DENIA, WEST	FOU ARIZONA IDECE	MBER TO 31 DECEMBER
	Summer CENTRAL CALL	FORMIA (SAN	JOADUIN VALLEY 15DE	MBER TO 31 DECEMBER CEMBERTO 15 JANUARY
	Fall SOUTHERN CAL	IFORNIA, U	DESTERN ARIZONA 1	OCTOBER TO I DECEMBER
	Winter SOUTHERN CA	LIFORNIA, L	NESTERN ARIZONA	V
10 AD.	1/ First water date to harvest. APTATION:	2/Fill in check vari	ety name on the appropriate line,	
	PRIMARY REGIONS OF ADAP	TION (tested and prov	ren adapted): {0=Not tested	1=Not Adapted 2=Adapted)
	Southwest (Calif., Ariz. desert)	West Coa	st O Northeast	
	O Northcentral	O Southeast	отнея	
÷	SEASON: Spring (area 1)MA: SAN 30 Summer (area 2)	IMPERIAL VALLEY	Fall (area YUMA) 2 Winter (area YUMA)	IMPERIAL VALLEY
٠	GREENHOUSE: 0-	Not tested	1=Not Adapted	2=Adapted
	SOIL TYPE: 1-	Mineral	2=Organic	3 - 8oth

FORM LS-470-1 (9-86)

Page 3 of

				A Control of the Cont	
11. DISEASES A	ND STRESS REACTIONS (0-Not tes	ted; 1=Susceptible; 2=I	Intermediate; 3−Resišta	int: 4-Highly resistant; 5-	Toleranti:
	VIRUS			FUNGAL/BACTERIAL	
	∏8ig Vein		Carky Roat Ro	t (Pythium Root Rot)	
	Lattuce Mosaic	Same and the same and	Oowny Mildew	(Reces	
	Cucumber Mossic	·	O Powdery Milder	¥	
	Broad Bean Wilt		O Scierotinia Rot		
	Turnip Mosaic		Bacterial Soft R	ot (Pseudomonas spp. & ott	ners)
	Seet Western Yellows		Botrytis (Gray A	Aold)	₹
•	Lett, Infectious Yellows		BOTHER R	nizom oh oš s	suberifacien
	Other Virus	<u> </u>			- 1
	INSECTS Cabbage Loopers		_	HYSIOLOGICALISTRESS	
	Root Aphids		[3] Tipbum	O Salt	
	Green Peach Aphid	•	Heat		coloration, Rib Blight)
	Other Insect	Angling of the Control of the Contro	O Drought	OTHER	
	Other Insect		3 Cold		
	, come	POST HARVES	Ţ		
•	Plak Rib		Internal Rib Necr	osis (Blackheart, Gray Rib,	Gray Streak)
	O Russet Spotting		8 rown Stain		
	Rusty Brown Discolaration	•			
12. BIOCHEMICAL	OR ELECTROPHORETIC MARKERS				
					-
					· · · · · · · · · · · · · · · · · · ·
13. COMMENTS:				• *	
			• . • • • • • • • • • • • • • • • • • •	· MARTON	
			•		
				·	
					er e
				in the second	•
<u> </u>	A State of the second				•
		UGGESTED CHECK V	ARIETIES		
and the second second					-

TYPE

CUTTING/LEAF BUTTERHEAD

21 BUTTERHEAD
33 BIBB
41 COS, OR ROMAINE
51 GREAT LAKES GROUP
61 VANGUARD GROUP
71 IMPERIAL GROUP
81 EASTERN GROUP
93 STEM
101 LATIN

CHECK VARIETY

SALAD BOWL DARK GREEN BOSTON BIBB PARRIS ISLAND GREAT LAKES 659-700 VANGUARD VIVA ITHACA CELTUCE MATCHLESS



Fourth Leaf from 20-Day old Seedlings, PSR 0136 'Conquistador'

MH 3/31/05



Harvest-Mature Leaf, PSR 0136

200000071.

REPRODUCE LOCALLY. Include form number and edition date on al	Il reproductions.	ORM APPROVED - OMB No. 0581-0055
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	Application is required in order to det certificate is to be issued (7 U.S.C. 2 confidential until the certificate is issued.)	ermine if a plant variety protection 421). The information is held
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Seminis Vegetable Seeds, Inc.	PSR 0136	Conquistador
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
2700 Camino del Sol Oxnard, CA 93030-7967	(805) 647-1572	(805) 918-2545
	7. PVPO NUMBER	· · · · · · · · · · · · · · · · · · ·
8. Does the applicant own all rights to the variety? Mark an "X" in the	200000071	
9. Is the applicant (individual or company) a U.S. national or a U.S. b	pased company? If no, give name of c	ountry. YES NO
10. Is the applicant the original owner? YES	NO If no, please answer one	
a. If the original rights to variety were owned by individual(s), is (YES b. If the original rights to variety were owned by a company(ies) YES YES	NO If no, give name of count	sed company?
11. Additional explanation on ownership (Trace ownership from origin	nal breeder to current owner. Use the re	everse for extra space if needed):
The variety named in this application was developed by the Semi otherwise stated, all rights to the varieties developed by Seminis operation of law. No rights to such invention, discovery or developed.	Vegetable Seeds Inc. are assisted to the	· · · · · · · · · · · · · · · · · · ·
Employee (Breeder): Bill Waycott		
Site Location: Arroyo Grande, CA		A Company
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not licens	sees) who meet the following criteria:	
if the rights to the variety are owned by the original breeder, that penational of a country which affords similar protection to nationals of	erson must be a U.S. national, national of the U.S. for the same genus and speci	of a UPOV member country, or es.
If the rights to the variety are owned by the company which employ nationals of a UPOV member country, or owned by nationals of a c genus and species.	yed the original breeder(s), the company country which affords similar protection t	must be U.S. based, owned by to nationals of the U.S. for the same
3. If the applicant is an owner who is not the original owner, both the $\boldsymbol{\theta}$	original owner and the applicant must m	eet one of the above criteria.
The original breeder/owner may be the individual or company who dir Act for definitions.		
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, control number. The valid OMB control number for this information collection is 0881-0055. Including the time for reviewing the Instructions searching while date courses are the control of	and a person is not required to respond to a collection The time required to complete this information collec	n of information unless it displays a valid OMB tion is estimated to average 0.1 hour per response.

The U.S. Department of Agriculture (USDA) prohibits discrimination in ell its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexuel orientation, maritel or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require elternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.

ST-470-E (04-03) designed by the Plant Variety Protection Office using Word 2000